

Appl. S.N. 09/681,406
Amdt. Dated August 27, 2003
Reply to Office Action of June 29, 2003

RD-28,383

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) A method for acquiring image data from a subject during a scan with a Magnetic Resonance Imaging (MRI) system comprising:

acquiring a reference data set of a region of interest;

acquiring a plurality of free-breathing data sets of said region of interest; and,

selectively processing said plurality of free-breathing data sets in comparison with said reference data set for use in generating an image of said region of interest.

2. (original) The method of claim 1 wherein said reference data set is a breath-held data set.

3. (original) The method of claim 2 further comprising the step of reconstructing said breath-held data set.

4. (original) The method of claim 1 wherein said reference data set is selected from the free-breathing data sets.

5. (original) The method of claim 1 wherein the region of interest is a coronary artery.

6. (original) The method of claim 1 wherein said selectively processing step comprises comparing each respective acquisition of said plurality of free-breathing data sets at a given interleaf angle with a corresponding acquisition of said reference data set at said given interleaf angle to produce a plurality of matched acquisitions for said given interleaf angle.

7. (original) The method of claim 1 further comprising the steps of reconstructing said respective acquisitions of each of said reference and free-breathing data sets into respective complex sub-images for use in said comparing step.

8. (original) The method of claim 1 wherein said comparing step comprises two-dimensional (2D) cross-correlation.

9. (original) The method of claim 6 further comprising averaging a predetermined number of said matched acquisitions for use in generating said image of said region of interest.

10. (original) The method of claim 1 wherein said each of said respective reference and free-breathing data sets are acquired by spiral trajectory scanning having an Archimidean spiral.

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11. (original) The method of claim 1 wherein said each of said respective reference and free-breathing data sets are acquired by spiral trajectory scanning having a modified spiral that samples the center of k-space more densely than the outer portion of k-space.

al 12. (original) The method of claim 1 wherein said respective reference and free-breathing data sets comprise a plurality of slices of a multi-slice data set.

Claims 13-25 (withdrawn)